Docket No.: **06-00990US01**
[209.0820001]

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.	:	10/090,492
Applicants:	:	Timothy A.M. Chuter, et al.
Filed:	:	March 4, 2002
TC/A.U.	:	3731
Examiner:	:	Amy T. Lang
Title:	:	ENDOVASCULAR GRAFT DEVICE AND METHODS FOR ATTACHING COMPONENTS THEREOF

APPEAL BRIEF

MS APPEAL BRIEF-PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir or Madame:

This brief is presented under 37 CFR § 41.37 in support of an appeal from a Final Office Action of June 15, 2009, and an Advisory Action of August 26, 2009, regarding the above-identified application. Notice of the Appeal was filed under 37 CFR § 41.31 on September 15, 2009.

This brief is accompanied by the fee set forth in 37 CFR § 41.20(b)(2), as described in the accompanying TRANSMITTAL OF APPEAL BRIEF.

This brief contains items under the following headings as required by 37 C.F.R. § 41.37:

I. Real Party In Interest

II. Related Appeals and Interferences

III. Status of Claims

IV. Status of Amendments

V. Summary of Claimed Subject Matter

VI. Grounds of Rejection to be Reviewed on Appeal

VII. Argument

VIII. Claims Appendix

IX. Evidence Appendix

X. Related Proceedings Appendix

The final page of this brief bears the attorney's signature.

I. REAL PARTY IN INTEREST

The real party in interest for this appeal is:

Boston Scientific Scimed, Inc., a corporation established under the laws of the State of Minnesota and having a principal place of business at One Scimed Place, Maple Grove, MN 55311, U.S.A.

II. RELATED APPEALS AND INTERFERANCES

Appellant is unaware of any related appeals, judicial proceedings, or interferences.

III. STATUS OF CLAIMS

A. Total Claims: 1-93

B. Current Status of Claims:

1. Claims canceled: 1-8, 10, 13-14, 16-28, 47, 50-55, 57-61, 63-69, 71-86, and 89-93
2. Claims withdrawn: None
3. Claims pending: 9, 11-12, 15, 29-46, 48-49, 56, 62, 70, and 87-88
4. Claims allowed: None
5. Claims rejected: 9, 11-12, 15, 29-46, 48-49, 56, 62, 70, and 87-88
6. Claims objected to: None
7. Claims on Appeal: 9, 11-12, 15, 29-46, 48-49, 56, 62, 70, and 87-88

IV. STATUS OF AMENDMENTS

No claims have been amended, canceled or added subsequent to the Final Office Action of June 15, 2009.

V. SUMMARY OF CLAIMED SUBJECT MATTER

A. Independent Claim 9

Independent claim 9 recites an endovascular graft for treating vasculature (Page 8, line 2-4; Page 8, line 14 – Page 9, line 1; original claim 9; Figs. 1, 2, 3C-3E) that includes:

a graft component (Page 31, line 9 – 11; Figs. 3A – 3E at 130) including a first leg portion and a second leg portion (Page 31, line 9 – Page 33, line 22; Figs. 3A – 3E at 133 and 134), the first leg portion being attached along its length to the second leg portion, the graft component having an opening (Page 19, lines 4 – 11; Page 25, lines 1 – 19; Fig. 1P at 31; Figs. 3A – 3B at 131); and a plurality of structures extending longitudinally beyond the opening (Page 25, line 1 – Page 26, line 2; Figs. 1P-1T at 47), the opening having an opening circumference;

an expandable frame (Page 19, line 4 – Page 20, line 14; Fig. 1P at 40);

an attaching structure (Page 24, line 16 – Page 25, line 19; Fig. 1P – 1S at 41 and 43) that attaches the expandable frame (Page 19, line 4 – Page 20, line 14; Fig. 1P at 40) to the graft component by engaging at least one of the plurality of structures extending longitudinally beyond the opening (Page 25, line 1 – Page 26, line 2; Figs. 1P-1T at 47); and

an anchoring structure (Page 20, lines 15 – 22; Figs. 1 – 1B at 86) that anchors the expandable frame (Page 19, line 4 – Page 20, line 14; Fig. 1P at 40) to the lumen wall (Page 23, lines 1 – 6; Fig. 1I at 160);

wherein the expandable frame (Page 19, line 4 – Page 20, line 14; Fig. 1P at 40) is longitudinally separated from the graft component (Page 31, line 9 – 11; Figs. 3A – 3E at 130);

wherein the attaching structure (Page 24, line 16 – Page 25, line 19; Fig. 1P – 1S at 41 and 43) attaches the expandable frame (Page 19, line 4 – Page 20, line 14; Fig. 1P at 40) to the graft component (Page 31, line 9 – 11; Figs. 3A – 3E at 130) at discrete locations on the graft component so that less than an entirety of a graft circumference is affixed to the attaching structure and wherein the opening of the graft component lacks other structure supporting a totality of the opening circumference (Page 25, lines 1 - 12; Fig. 1P); and

wherein at least one of the plurality of structures extending beyond the opening is in the form of a tab which is folded over a portion of the attaching structure (Page 25, line 1 – Page 26, line 2; Figs. 1P-1T at 47).

Independent claim 9 is argued together with dependent claims 11-12, 15, 29-46, 48-49, 56, 62, 70, and 87-88.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Whether claims 9, 11-12, 15, 29-46, 48-49, 56, 62, 70, and 87-88 were improperly rejected for non-statutory double patenting over claims 1-24 of Chuter, et al. (U.S. Patent No. 6,652,580) in view of Hickok (U.S. Patent No. 2,030,791).

B. Whether claims 9, 11-12, 15, 29-46, 48-49, 56, 62, 70, and 87-88 were improperly rejected as unpatentable under 35 USC § 103(a) over Chuter, et al. (U.S. Patent No. 6,652,580) in view of Hickok (U.S. Patent No. 2,030,791).

C. Whether claims 9, 11-12, 15, 29-46, 48-49, 56, 62, 70, and 87-88 were improperly rejected as unpatentable under 35 USC § 103(a) over Kugler, et al. (U.S. Patent No. 6,280,466) in view of Chobotov, et al. (U.S. Patent No. 7,090,693), in view of Hickok (U.S. Patent No. 2,030,791).

VII. ARGUMENT

A. Arguments against the non-statutory double patenting rejections over claims 1-24 of the Chuter reference in view of the Hickok reference.

1. Arguments regarding claims 9, 11-12, 15, 29-46, 48-49, 56, 62, 70, and 87-88.

a. **Claims 9, 11-12, 15, 29-46, 48-49, 56, 62, 70, and 87-88 will not extend the patent term of claims 1-24 of the Chuter reference, and thus do not constitute non-statutory double patenting.**

A Terminal Disclaimer to obviate a double-patenting rejection over a "prior" patent (PTO/SB/26), in compliance with 37 CFR 1.321(c) was filed on August 26, 2009 in response to the Final Office action with respect to the Chuter reference (U.S. Pat. No. 6,652,580). Thus, claims 9, 11-12, 15, 29-46, 48-49, 56, 62, 70, and

87-88 will not serve to extend the patent term beyond that of claims 1-24 of the Chuter reference, even if the subject matter of the present application were found to be patentable indistinct from claims 1-24 of the Chuter and Hickok references.

Accordingly, Appellant respectfully requests reconsideration and withdrawal of the double patenting rejection of independent claim 9, as well as those claims that depend therefrom.

b. **The Hickok reference is non-analogous and should not be used to modify the Chuter reference.**

Appellants respectfully submit that the modification of the Chuter reference with the Hickok reference is improper because the Hickok reference is non-analogous art. Independent claim 9 is directed to an endovascular graft for treating vasculature. The Hickok reference "relates to improvements in braces or suspenders" (Page 1, lines 1-2).

To rely on a reference, the reference must be "analogous art." MPEP § 2141(a)(I) state that "prior art can be either in the field of applicant's endeavor or be reasonably pertinent to the particular problem with which the applicant was concerned." A "reasonably pertinent" reference is "one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his or her own invention as a whole." MPEP § 2141(a)(I).

The Hickok reference does not appear to disclose or suggest that the structures it recites are suitable for implantation in the human body. Appellants respectfully submit that one skilled in the art of implantable stent grafts would not look to manufacturing methods for attaching the elastic shoulder straps of a pair of suspenders to flexible (non-elastic) cord in an effort to solve a particular problem concerned with attaching delicate graft material to a framework installed within blood-carrying vessels of the human body. Appellants respectfully suggest that the Office action relies upon the present disclosure as a blueprint for such a hindsight search of non-analogous art.

Appellants respectfully submit that because the Hickok reference is a non-analogous reference, there is no permissible basis for combining the Chuter and

Hickok references. The final Office action does not allege, and Appellants respectfully submit, that the Chuter reference alone does not teach, suggest or make obvious each and every claimed limitation. Accordingly, Appellant respectfully requests reconsideration and withdrawal of the double patenting rejection of independent claim 9, as well as those claims that depend therefrom.

B. Arguments against the rejections under 35 USC § 103(a) over the Chuter and Hickok references.

1. Arguments regarding claims 9, 11-12, 15, 29-46, 48-49, 56, 62, 70, and 87-88.

a. **The Chuter reference is not prior art; thus, for claims 9, 11-12, 15, 29-46, 48-49, 56, 62, 70, and 87-88, the cited references do not describe, teach, suggest, or make obvious each and every claimed element.**

A declaration under 37 CFR 1.130 stating that the present application and the Chuter reference (U.S. Pat. No. 6,652,580) are currently owned by the same party and that the inventor named in the present application is the prior inventor under 35 U.S.C. 104, together with the above-mentioned Terminal Disclaimer concerning the Chuter reference in compliance with 37 CFR 1.321(c), were filed on August 26, 2009 in response to the Final Office action.

Therefore, Appellants respectfully submit that the Chuter reference is not prior art. Furthermore, the final Office action mailed June 15, 2009 does not allege, and Appellants respectfully submit, that the Hickok reference alone, does not teach, suggest or make obvious each and every element and limitation recited in Appellants' independent claim 9. Accordingly, Appellants respectfully request reconsideration and withdrawal of the § 103 rejection of independent claim 9 with respect to the Chuter and Hickok references, as well as those claims that depend therefrom.

b. **The Hickok reference is non-analogous and should not be used to modify the Chuter reference.**

As set forth above with respect to the arguments against the non-statutory double patenting rejections, and repeated herein, Appellants respectfully submit that

the modification of the Chuter reference with the Hickok reference is improper because the Hickok reference is non-analogous art. Appellants respectfully submit that because the Hickok reference is a non-analogous reference, there is no permissible basis for combining the Chuter and Hickok references. Accordingly, Appellants respectfully request reconsideration and withdrawal of the § 103 rejection of independent claim 9 with respect to the Chuter and Hickok references, as well as those claims that depend therefrom.

C. Arguments against the rejections under 35 USC § 103(a) over the Kugler, Chobotov, and Hickok references.

1. Arguments regarding claims 9, 11-12, 15, 29-46, 48-49, 56, 62, 70, and 87-88.

a. **For claims 9, 11-12, 15, 29-46, 48-49, 56, 62, 70, and 87-88, the cited references do not describe, teach, suggest, or make obvious each and every claimed element.**

Appellants' independent claim 9 is directed to an endovascular graft for treating vasculature, and presently recites:

> a graft component including a first leg portion and a second leg portion, the first leg portion being attached along its length to the second leg portion, the graft component having an opening and a plurality of structures extending longitudinally beyond the opening, the opening having an opening circumference;
>
> an expandable frame;
>
> an attaching structure that attaches the expandable frame to the graft component by engaging at least one of the plurality of structures extending longitudinally beyond the opening; and
>
> an anchoring structure that anchors the expandable frame to the lumen wall;
>
> wherein the expandable frame is longitudinally separated from the graft component;
>
> wherein the attaching structure attaches the expandable frame to the graft component at discrete locations on the graft component so that less than an entirety of a graft circumference is affixed to the attaching structure and wherein the opening of the graft component lacks other structure supporting a totality of the opening circumference; and

wherein at least one of the plurality of structures extending beyond the opening is in the form of a tab which is folded over a portion of the attaching structure.

From Appellants' review, the Kugler, Chobotov, and Hickok references do not appear to describe, teach or suggest "graft component having . . . a plurality of structures extending longitudinally beyond the opening . . . .wherein at least one of the plurality of structures extending beyond the opening is in the form of a tab which is folded over a portion of the attaching structure" as recited in Appellants' independent claim 9.

The Kugler reference is directed to an endovascular graft system, and appears to describe a graft component (45) being secured to an expandable frame (10) by attaching structures, e.g., Fig. 3B at 41 and 43. Pages 6-7 of the Office action mailed June 15, 2009 acknowledges that the Kugler reference "does not teach the attaching structures are secured onto the graft by structures extending longitudinally from the graft that are then folded over the attaching structures to form a tab." See Figures 1P – 1S of the present application, which illustrate one embodiment of attaching structures at 41 and 43, and tabs at 47).

Indeed, it appears the Kugler reference teaches the graft being attached directly to the outside of the aortic stent (10) using sutures (see Figure 3B and discussion thereof in col. 7). The Kugler reference does not appear to teach use of attaching structures distinct from an expandable frame, since the graft material is shown being directly attached to the aortic stent (10) using sutures. The Kugler reference also does not appear to teach forming tabs from the graft material by folding over. Therefore, the Office action looks to the Chobotov reference.

However, the Office action does not suggest any motivation for looking to the Chobotov reference for modifying the method of attaching the graft material to the aortic stent taught in the Kugler reference, e.g., directly sewing the graft material to the aortic stent 10. Nor does the Office action indicate any reason it might be obvious to try to modify the Kugler reference with the teachings of the Chobotov reference. As such, Applicant respectfully submits that the Office action does not establish a prima facie case of obviousness. That is, one having ordinary skill in the

art would not be motivated, other than by the present disclosure, to modify the Kugler reference using the Chobotov reference, and the rejection should be withdrawn for at least this reason.

The Chobotov reference appears to describe an endovascular graft joint and method for manufacture (Title, Abstract). The Chobotov reference appears to teach attaching the graft material (291) to a stent using flaps (see Figure 28 and discussion thereof). Specifically, the Chobotov reference appears to describe forming the graft material (291) into a tubular shape, and cutting longitudinal slits (293) in the graft material (291) to form flaps, which are folded back over a portion of a serpentine ring member (284) (col. 18, line 61 – col. 19, line 20).

Page 8 of the Office action acknowledges that the Chobotov reference "does not specifically disclose the folded tabs as initially extending longitudinally beyond the graft opening." Applicant respectfully submits that the folded tabs of the Chobotov reference do not extend longitudinally beyond the graft opening due to the particular method of manufacturing disclosed by the Chobotov reference that includes rolling graft material on a spindle (Figs. 1-3) and cutting the ends thereof (Fig. 4). That is, Applicant respectfully submits that the Chobotov reference teaches away from tabs extending longitudinally beyond the graft opening.

Figures 1-4, and the related discussion thereof, in the Chobotov reference describe a method for manufacturing the graft material, e.g., by wrapping layers around a shape forming mandrel. Specifically with respect to Figure 4, the Chobotov reference teaches trimming the end of the graft material using a knife edge (32) pressed against the layers of graft material and moved circumferentially about the shape forming mandrel to produce a clean, e.g., straight, end cut for the tubular shaped graft material.

Trimming the end of the graft material such that tabs might extend beyond the opening would complicate the cutting procedure, and add expense to the manufacturing process described in the Chobotov reference. Again, the Office action does not provide any indication as to why one skilled in the art would be further motivated to complicate a relatively simple end trimming process to form

tabs extending beyond the opening of the graft material, which can be folded over a portion of the attaching structure.

Therefore, Applicant respectfully submits that one having ordinary skill in the art, without benefit of the present disclosure, would not be motivated to modify the simpler manufacturing process taught by the Chobotov reference to provide tabs extending beyond the opening of the graft material. Such a further modification to the Chobotov reference (which is used to modify the Kugler reference) would necessarily involve a more complicated manufacturing process, as suggested by the present Office action.

Also, the Chobotov reference teaches a serpentine ring member (284). The serpentine shape is used to accommodate the simpler manufacturing method of trimming the graft material to have an square opening, e.g., without tabs extending longitudinally beyond the opening of the graft material. That is, teaching use of the serpentine ring member (284) having tabs created by folding from a perpendicular end cut effectively teaches away from tabs extending beyond the opening of the graft material (which could then be attached to a non-serpentine ring member).

Thus, without any suggested motivation to utilize tabs that extend longitudinally beyond the opening, e.g., perpendicular end cut, of the graft material of the Chobotov reference, the Office action further looks to the Hickok reference as providing this claimed limitation. As discussed above with respect to the double patenting rejection, the Hickok reference is non-analogous art, and one skilled in the art would not be motivated to modify the Kugler and Chobotov references using the Hickok reference. Appellants respectfully submit that one skilled in the art of implantable stent grafts would not look to manufacturing methods for suspenders to teach or suggest having tabs extend longitudinally beyond the opening of an endovascular graft for treating vasculature.

To rely on a reference under 35 USC § 103, the reference must be analogous prior art. The prior art reference must either be in the field of applicant's endeavour or be reasonably pertinent to the particular problem with which the applicant was concerned. The present application is directed to an endovascular graft for treating vasculature, whereas the Hickok reference is directed to "improvements in braces or

suspenders" (col. 1, lines 1-2). The present application is directed to an implantable medical apparatus, whereas the Hickok reference describes an apparatus for holding up pants. Applicant respectfully submits that the particular problem with which the applicant was concerned was not simply folding of tabs to secure two members, but rather attaching graft material to an expandable frame for implantation into the human body. As such, Applicant respectfully submits that the Hickok reference is non-analogous art because it is not in the field of applicant's endeavour, and is not reasonably pertinent to the particular problem of securing a cylindrical endovascular graft material to an implantable expandable frame.

Even if one skilled in the art did consider the Hickok reference, Appellants respectfully submit that the Hickok reference does not teach or suggest a plurality of structures extending longitudinally beyond an opening, the opening having an opening circumference. Nor does the Hickok reference appear to teach at least one of the plurality of structures extending beyond the opening is in the form of a tab which is folded over a portion of the attaching structure. Appellants respectfully submit that the Hickok reference simply does not teach or suggest a tab extending beyond an opening, since there is no opening associated with suspenders attachment.

The Office action suggests that Figure 1 of the Hickok reference teaches tabs initially extending longitudinally beyond the point of attachment and being folded back on themselves. Applicant respectfully submits that the Hickok reference cannot, and does not, teach the tabs extending longitudinally beyond a graft opening, since the Hickok reference is directed to fabrication of suspenders, not grafts, and clearly not cylindrical grafts having openings. The Hickok reference is directed to braces (i.e., pant suspenders) and the tab relied on by the Office action is used to attach elastic shoulder straps to cord forming button engaging loops. There does not appear to be any structure disclosed in the Hickok reference to teach or suggest the tabs extending past an opening, since suspenders do not have any such opening. More specifically, the Hickok reference does not appear to teach or suggest any structure corresponding to a graft opening to support that the Hickok

reference teaches or suggests the tabs extending longitudinally beyond such an opening.

In addition, Applicant respectfully submits that, even if the Hickok reference were not non-analogous art, one having ordinary skill in the art would not look to the Hickok reference to modify the teachings of the Chobotov reference. The Chobotov reference already appears to teach the forming tabs, and folding them over a serpentine attaching structure. There does not appear to be anything in the Hickok reference that would lead one skilled in the art to modify the teachings of the Chobotov reference to have tabs extend longitudinally beyond an opening in the graft material. As such, there is no motivation provided by the non-analogous art Hickok reference for further modifying the Kugler and Chobotov references.

The Hickok reference does not even appear to teach or suggest the flap extending from some item. Instead, the Hickok reference suggests "wrapping a strip 12 of adhesive tape around the strands to form a flap 13 and securing said flap 13 by stitching and by the adhesive of the tape between the rear end of one of the back straps and the adjacent portion of the tab thereof." Nor are the leather tabs 8 described to be extending from a larger area of leather material. Instead they appear to be merely a discrete portion of leather sewed to the back straps, not an extension of the back strap material. Applicant respectfully submits that the motivation for modifying the Chobotov reference with the Hickok reference, as suggested in the Office action to teach tabs extending from an opening, is insufficient to support the 103 rejection.

As such, Applicant respectfully submits that the Kugler reference, in view of the Chobotov and Hickok references, does not teach, suggest or make obvious each and every element and limitation recited in Applicant's independent claim 9. That is, the Kugler, Chobotov, and Hickok references do not appear to describe, teach or suggest "graft component having . . . a plurality of structures extending longitudinally beyond the opening . . . wherein at least one of the plurality of structures extending beyond the opening is in the form of a tab which is folded over a portion of the attaching structure" as recited in Appellants' independent claim 9. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the

§ 103 rejection of independent claim 9 with respect to the Kugler, Chobotov, and Hickok references, as well as those claims that depend therefrom.

CONCLUSION

Appellants respectfully submit that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner and/or members of the Board are invited to telephone Appellants' attorney Daniel A. Dettlaff at (612) 236-0131 to facilitate this appeal.

CERTIFICATE UNDER 37 C.F.R. §1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: **MS Appeal Brief-Patents** Commissioner for Patents, P.O. BOX 1450, Alexandria, VA 22313-1450, on this 8 day of October, 2009.

Jillian K. Awe
Name

Signature

Respectfully Submitted,
Timothy A.M. Chuter, et al.

By their Representatives:
Brooks, Cameron & Huebsch, PLLC
1221 Nicollet Avenue, Suite 500
Minneapolis, MN 55403

Dan A. Dettlaff

Atty: Daniel A. Dettlaff
Reg. No.: 46,662

October 8, 2009
Date:

VIII. CLAIMS APPENDIX

1-8. (Canceled)

9. (Previously Presented) An endovascular graft for treating vasculature, comprising:

a graft component including a first leg portion and a second leg portion, the first leg portion being attached along its length to the second leg portion, the graft component having an opening and a plurality of structures extending longitudinally beyond the opening, the opening having an opening circumference;

an expandable frame;

an attaching structure that attaches the expandable frame to the graft component by engaging at least one of the plurality of structures extending longitudinally beyond the opening; and

an anchoring structure that anchors the expandable frame to the lumen wall;

wherein the expandable frame is longitudinally separated from the graft component;

wherein the attaching structure attaches the expandable frame to the graft component at discrete locations on the graft component so that less than an entirety of a graft circumference is affixed to the attaching structure and wherein the opening of the graft component lacks other structure supporting a totality of the opening circumference; and

wherein at least one of the plurality of structures extending beyond the opening is in the form of a tab which is folded over a portion of the attaching structure.

10. (Canceled)

11. (Previously Presented) The graft of claim 9, wherein the tab is formed as part of the graft component.

12. (Previously Presented) The graft of claim 9, wherein the tab is formed by cutting one of the plurality of structures extending beyond the opening and folding the graft component material back.

13-14. (Canceled)

15. (Previously Presented) The graft of claim 9 wherein the tab is reinforced by sutures.

16-28. (Canceled)

29. (Previously Presented) The graft of claim 9, wherein the graft component is bifurcated.

30. (Previously Presented) The graft of claim 9, wherein the expandable frame is self-expanding.

31. (Previously Presented) The graft of claim 9, wherein the anchoring structure comprises a hook or barb.

32. (Previously Presented) The graft of claim 31, wherein the hook or barb is curved.

33. (Previously Presented) The graft of claim 31, wherein the hook or barb is tapered.

34. (Previously Presented) The graft of claim 31, wherein the hook or barb is bidirectional.

35. (Previously Presented) The graft of claim 31, the hook or barb further comprising a tail.

36. (Previously Presented) The graft of claim 31, the hook or barb cut at the edge of a stent strut of the anchoring structure.

37. (Previously Presented) The graft of claim 31, the hook or barb located near the junction of stent struts of the anchoring structure.

38. (Previously Presented) The graft of claim 9, the graft component further comprising reinforcing structures.

39. (Previously Presented) The graft of claim 38, wherein the reinforcing structures are self-expanding.

40. (Previously Presented) The graft of claim 38, wherein a reinforcing structure is in the form of a stent.

41. (Previously Presented) The graft of claim 38, wherein a reinforcing structure is on an exterior of the graft component.

42. (Previously Presented) The graft of claim 38, wherein a reinforcing structure is on an interior of the graft component.

43. (Previously Presented) The graft of claim 42, wherein a reinforcing structure comprises a hook or barb.

44. (Previously Presented) The graft of claim 43, wherein the hook or barb is curved.

45. (Previously Presented) The graft of claim 43, wherein the hook or barb is tapered.

46. (Previously Presented) The graft of claim 43, wherein the hook or barb is bidirectional.

47. (Canceled)

48. (Previously Presented) The graft of claim 43, the hook or barb cut at the edge of a stent strut of the reinforcing structure.

49. (Previously Presented) The graft of claim 43, the hook or barb located near the junction of stent struts of the reinforcing structure.

50-55. (Canceled)

56. (Previously Presented) The graft of claim 9, further comprising a plurality of radiopaque markers.

57-61. (Canceled)

62. (Previously Presented) The graft of claim 9, the expandable frame further including endpoints that are larger than a strut thickness of the expandable frame.

63-69. (Canceled)

70. (Previously Presented) The graft of claim 9, further comprising a system of variable sized radiopaque markers attached to the graft component.

71-86. (Canceled)

87. (Previously Presented) The graft of claim 9, further comprising stent structures attached to both an inside surface and an outside surface of the graft component.

88. (Previously Presented) The graft of claim 9, further comprising a plurality of reinforcing structures attached to the graft component, wherein the plurality of reinforcing structures and the expandable frame are each spaced longitudinally so that the reinforcing structures and expandable frame are non-overlapping.

89-93. (Canceled)

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

As there are no appeals or interferences known to Appellant's Representatives which will directly affect, be directly affected by, or have a bearing on the Board's decision in the pending appeal, there are no copies of decisions rendered by a court or the Board to submit.